

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A process for the catalytic hydrodealkylation alone of hydrocarbons comprising C₈-C₁₃ alkylaromatic compounds, optionally mixed with C₄-C₉ aliphatic and cycloaliphatic products, which comprises treating said hydrocarbon compositions, in continuous and in the presence of hydrogen, with a ZSM-5 zeolite catalyst ~~consisting of a ZSM-5 zeolite~~, having an Si/Al molar ratio ranging from 5 to 35, modified with at least one metal selected from the group consisting of those belonging to groups IIB, VIB, VIII, at a temperature ranging from 400 to 650°C, a pressure ranging from 2 to 4 MPa and an H₂/charge molar ratio ranging from 3 to 6.

Claim 2 (Previously Presented): The process according to claim 1, wherein the hydrodealkylation reaction takes place at temperatures ranging from 450 to 580°C, pressures ranging from 2.8 to 3.6 MPa, H₂/charge molar ratios ranging from 3.8 to 5.2, and with flow-rates of the reagents which are to guarantee an LHSV (Liquid Hourly Space Velocity), calculated, with respect to the hydrocarbon stream, ranging from 3 to 5 h⁻¹.

Claim 3 (Previously Presented): The process according to claims 1, wherein the hydrocarbon charge subjected to hydrodealkylation comprises C₈-C₁₃ alkylaromatic compounds selected from the group consisting of ethylbenzene, xylenes, propylbenzenes, ethyltoluenes, trimethylbenzenes, diethylbenzenes, ethylxylenes, tetramethylbenzenes, propyltoluenes, ethyltrimethylbenzenes, triethylbenzenes, and dipropyltoluenes.

Claim 4 (Original): The process according to claim 3, wherein the C₈-C₁₃ alkylaromatic hydrocarbon charge comes from reforming units or from units effecting pyrolytic processes, or from steam cracking.

Claim 5 (Previously Presented): The process according to claim 1, wherein the hydrocarbon charge subjected to hydrodealkylation comprises C₈-C₁₃ alkylaromatic compounds, optionally mixed with C₄-C₉ aliphatic and cycloaliphatic products and organic compounds containing hetero-atoms.

Claim 6 (Currently Amended): The process according to claim 1, wherein the ZSM-5 zeolite catalyst ~~consists of a ZSM-5 zeolite~~ is in bound form, with binders selected from the group consisting of aluminas; silica; alumino-silicates; titanium and zirconium oxides; and their mixtures with zeolite/binder weight ratios ranging from 100/1 to 1/10.

Claim 7 (Previously Presented): The process according to claim 6, wherein the ZSM-5 catalyst/binder is modified with at least one metal selected from the group consisting of those belonging to groups IIB, VIB, and VIII.

Claim 8 (Previously Presented): The process according to claim 7, wherein the metal is selected from the group consisting of molybdenum, zinc, nickel, cobalt, palladium, and their mixtures.

Claim 9 (Original): The process according to claim 8, wherein the metal is molybdenum.

Claim 10 (Previously Presented): The process according to claim 1, wherein the ZSM-5 zeolite is characterized by an Si/Al molar ratio ranging from 15 to 30.

Claim 11 (Previously Presented): The process according to claim 1, wherein the dispersion of metals on the catalyst can be carried out according to techniques selected from impregnation, ion exchange, vapor deposition or surface adsorption.

Claim 12 (Previously Presented): The process according to claim 1, wherein the ZSM-5 zeolite as such or in bound form is impregnated with metals of groups IIB, VIB and VIII according to methods which comprise:

- preparing one or more solutions of metal compounds to be carried on a medium;
- impregnating the zeolite with the above solutions;
- drying the zeolite thus impregnated;
- calcining the impregnated and dried zeolite, at temperatures ranging from 400 to 650°C; and
- optionally repeating the previous steps once or several times.

Claim 13 (Previously Presented): The process according to claim 12, wherein the dispersion of metals on the catalyst takes place by impregnation with an aqueous or aqueous-organic solution, with the organic solvent selected from the group consisting of alcohols, ketones, nitriles, and their mixtures, containing at least one hydro- or organo-soluble compound of the metal in such concentrations that the total final content of the metal in the catalyst ranges from 0.1 to 10% by weight.

Claim 14 (Previously Presented): The process according to claim 1, wherein the total content of the metal in the catalyst ranges from 0.5 to 8% by weight.

Claim 15 (Previously Presented): The process according to claim 2, wherein the LHSV ranges from 3.5 to 4.5 h⁻¹.

Claim 16 (Previously Presented): The process according to claim 6, wherein the aluminas are selected from the group consisting of pseudo-bohemite and γ -alumina.

Claim 17 (Currently Amended): The process according to claim 6, wherein the clays are selected from the group consisting of kaolinite, smectites, and montmorillonites.